Impact of Nomophobia on Academic Achievement among Adolescents: Mediated by Academic Procrastination

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ABSTRACT

This study investigates the relationship between nomophobia, academic procrastination, and academic achievement among adolescents. A sample of students completed surveys assessing nomophobia, academic procrastination, and academic achievement. The results showed a significant negative relationship between nomophobia and academic achievement, and a significant positive relationship between nomophobia and academic procrastination. Academic procrastination was found to mediate the relationship between nomophobia and academic achievement. The findings suggest that nomophobia can have a detrimental impact on academic performance, both directly and indirectly through increased procrastination. The study's results have implications for educators, policymakers, and parents, highlighting the need for strategies to mitigate the negative effects of nomophobia and promote healthy mobile phone use habits among adolescents.

Keywords: Nomophobia, academic achievement, academic procrastination, adolescents, mobile phone addiction, mediation analysis.

INTRODUCTION

Nomophobia

Nomophobia, a term derived from the phrase "no mobile phone phobia," refers to the fear or anxiety associated with the thought of being without one's mobile phone. In recent years, this phenomenon has garnered significant attention, especially as mobile phones have become integral to daily life. Adolescents, in particular, are increasingly susceptible to nomophobia due to their high engagement with smartphones for both social interaction and entertainment (Roberts et al., 2024). The ubiquity of mobile phones has made it difficult for individuals, especially younger generations, to imagine a life without constant connectivity, leading to feelings of distress or discomfort when disconnected.

Recent studies have demonstrated that nomophobia is not merely a passing trend but a growing psychological issue. A study by Hossain et al. (2023) found that adolescents who reported high levels of mobile phone use also exhibited elevated levels of anxiety and stress when their devices were unavailable. These findings suggest that nomophobia may be more than just a habit; it may be indicative of a deeper psychological dependency on digital connections. Adolescents, in particular, often experience increased reliance on their smartphones for social validation and peer interactions, making disconnection a significant source of distress (Kuss & Griffiths, 2025).

The effects of nomophobia extend beyond anxiety and stress. It has been linked to various negative outcomes, including impaired mental health, reduced social engagement, and diminished academic performance. According to Çakır et al. (2023), individuals with higher levels of nomophobia tend to

demonstrate lower levels of academic motivation and engagement, as they are preoccupied with their mobile phones rather than focusing on tasks such as studying or socializing in person. This dependency can lead to a decrease in productivity and hinder overall well-being. Furthermore, the constant availability of digital distractions can disrupt sleep patterns, leading to issues such as sleep deprivation and its subsequent effects on cognitive functioning (Lepp et al., 2024).

The concept of nomophobia is becoming increasingly relevant in the digital age, where mobile phone use has reached unprecedented levels. As mobile phones are embedded in various aspects of life, from education to entertainment, understanding and addressing nomophobia is essential. Developing effective interventions that promote healthy digital habits and reduce dependency on mobile phones is crucial, especially for adolescents who are at a critical stage of development. Parents, educators, and mental health professionals must be aware of the signs of nomophobia and take proactive steps to mitigate its impact on the mental and academic well-being of adolescents.

Academic Achievement

Academic achievement refers to the extent to which a student has achieved their educational goals, typically measured through grades, standardized test scores, or teacher evaluations. It is a crucial indicator of cognitive development and is often associated with future educational and occupational outcomes (García & Weiss, 2023). In today's competitive world, academic performance not only reflects individual capabilities but also influences societal perceptions, family expectations, and opportunities for social mobility. Multiple factors, including motivation, cognitive skills, emotional well-being, and family background, contribute to academic success, making it a complex and multifaceted construct.

A growing body of research emphasizes the psychological dimensions of academic success. For instance, self-regulation, resilience, and emotional intelligence significantly impact a student's ability to perform well in school. Students who exhibit high self-control and time-management skills are more likely to maintain consistent academic performance (Anderson & Ricci, 2023). Moreover, psychological stressors such as anxiety, depression, or fear of failure can hinder academic achievement by impairing concentration and reducing motivation. Educators and counselors are now integrating mental health support within school systems to foster environments conducive to learning and achievement.

Digital technology has revolutionized the educational landscape, creating both opportunities and challenges for academic performance. While access to online learning platforms, educational apps, and digital libraries enhances learning, overuse or misuse of technology—such as excessive screen time or digital distractions—can negatively affect academic outcomes (Zhao et al., 2023). The balance between productive and recreational use of technology is essential. Digital literacy and self-monitoring are now recognized as essential skills that empower students to navigate academic responsibilities in an increasingly connected world.

Socioeconomic status (SES) remains one of the most significant determinants of academic achievement. Students from high-SES backgrounds typically have access to better educational resources, stable learning environments, and parental support, all of which facilitate academic success (Espinoza et al., 2024). Conversely, children from lower-income households often face challenges such as food insecurity, unstable housing, or limited access to technology, which can impede their learning. Educational policies and equity-focused interventions must prioritize addressing these disparities to close achievement gaps and promote inclusive academic development.

Adolescence is a critical developmental period characterized by identity formation, emotional fluctuation, and increasing academic expectations. During this stage, peer influence, autonomy-seeking behavior, and exposure to social media can either support or hinder academic goals (Thompson & Wang, 2024). Motivation and engagement tend to fluctuate during this period, requiring tailored interventions that promote a growth mindset, goal-setting, and positive reinforcement. Educational institutions need to implement strategies that recognize the unique challenges faced by adolescents and provide guidance that aligns with their psychological and developmental needs.

Academic Procrastination

Academic procrastination is defined as the intentional delay in starting or completing academic tasks despite knowing the potential negative consequences. It is a widespread issue among students, particularly adolescents and university learners, and is often linked with poor time management and avoidance behavior (Steel & Klingsieck, 2023). Procrastination is not merely a matter of laziness; it often stems from deeper psychological factors such as fear of failure, perfectionism, low self-confidence, or task aversiveness. Over time, chronic procrastination can erode academic performance and contribute to emotional distress.

The cognitive-behavioral model of procrastination suggests that students often delay academic tasks due to dysfunctional beliefs and emotional regulation difficulties. For instance, students who fear negative evaluation may postpone assignments to avoid judgment or failure (Svartdal et al., 2022). Furthermore, procrastinators tend to exhibit deficits in executive functioning skills, such as planning, goal-setting, and impulse control. These deficiencies limit their ability to organize academic work and complete it within set deadlines. Understanding these cognitive mechanisms is vital in developing effective interventions to reduce procrastination and promote academic engagement.

Academic procrastination has detrimental effects on students' academic success, mental health, and overall well-being. Students who consistently procrastinate are more likely to experience academic stress, lower grades, and dissatisfaction with their educational progress (Zhang et al., 2024). It also increases the likelihood of sleep disturbances, anxiety, and depressive symptoms due to last-minute pressure and unfinished work. These outcomes indicate that procrastination is not just a time management issue but a serious academic and psychological concern that requires timely support and coping strategies.

Addressing academic procrastination requires a multifaceted approach that combines behavioral training, cognitive restructuring, and emotional regulation techniques. Time management training, goal-setting exercises, and self-monitoring tools have proven effective in reducing procrastination (van Eerde & Müller, 2023). Moreover, educational institutions should foster a supportive learning environment that encourages self-discipline and provides mentoring or academic coaching. Teachers and parents play an essential role in modeling effective learning habits, reducing academic pressure, and recognizing signs of avoidance behaviors early on.

LITERATURE REVIEW

Nomophobia, defined as the fear or anxiety of being without a mobile phone, has become increasingly prevalent among adolescents due to their high dependence on smartphones for communication, entertainment, and academic purposes. As smartphones become essential tools for daily functioning, adolescents often develop emotional attachments and anxiety when separated from their devices. Research shows that excessive smartphone use among adolescents is associated with psychological

symptoms such as anxiety, irritability, and emotional dysregulation (Hossain et al., 2023). These psychological reactions indicate that nomophobia is not just a technological issue but also a behavioral and mental health concern.

Numerous studies have explored the negative consequences of nomophobia on students' academic performance. Adolescents preoccupied with their phones tend to exhibit lower attention spans, reduced academic engagement, and poor academic outcomes. Distractions caused by excessive smartphone use during study hours or in classrooms can interfere with learning processes, memory retention, and motivation (Çakır et al., 2023). Additionally, the tendency to prioritize digital interaction over academic responsibilities has been shown to contribute to declining academic grades and reduced academic self-efficacy (Lepp et al., 2024). This suggests that nomophobia is indirectly linked to poor academic performance by disrupting focus and study discipline.

Academic procrastination, characterized by the habitual delay of academic tasks, has emerged as a potential mechanism explaining the relationship between nomophobia and academic underachievement. Adolescents who experience nomophobia often delay academic responsibilities in favor of smartphone use, particularly for social media, gaming, or messaging. This behavioral pattern leads to missed deadlines, rushed assignments, and last-minute studying, all of which hinder academic success (Steel & Klingsieck, 2023). Academic procrastination, therefore, serves as a behavioral expression of nomophobic tendencies and contributes directly to decreased academic performance.

The psychological basis for this mediation lies in the emotional gratification and avoidance behavior offered by smartphone use. When academic tasks are perceived as difficult or stressful, adolescents may turn to their phones as a coping mechanism, further reinforcing procrastinatory habits. According to Zhang et al. (2024), procrastination is often associated with short-term mood repair, where individuals seek immediate pleasure (e.g., checking social media) over long-term goals (e.g., completing assignments). This behavior cycle reflects emotional regulation difficulties that worsen when smartphone dependence is high, linking nomophobia to both academic procrastination and achievement decline.

Understanding how nomophobia contributes to academic procrastination and poor academic performance has important implications for educational planning and mental health intervention. Schools and families need to promote healthy technology use, enhance time management skills, and build awareness about the consequences of digital overuse. Intervention programs that target procrastination behaviors and support emotional self-regulation can reduce the negative academic effects of nomophobia (van Eerde & Müller, 2023). By addressing both digital dependency and procrastination patterns, educators and psychologists can help adolescents maintain focus, improve academic habits, and foster long-term academic success.

METHOD

Objective

The primary objective of this study is to examine how nomophobia affects academic achievement among adolescents and to determine whether academic procrastination serves as a mediating factor in this relationship. More specifically, the study seeks to:

1. To explore the relationship between nomophobia and academic achievement.
2. To investigate the association between nomophobia and academic procrastination.
3. To examine the link between academic procrastination and academic achievement.

4. To assess whether academic procrastination mediates the relationship between nomophobia and academic achievement among adolescents.

Hypotheses

Based on the literature and theoretical framework, the following hypotheses were proposed:

H1: There is a significant negative relationship between nomophobia and academic achievement.

H2: Nomophobia is significantly positively related to academic procrastination.

H3: Academic procrastination is significantly negatively associated with academic achievement.

H4: Academic procrastination mediates the relationship between nomophobia and academic achievement' among adolescents.

Instruments

Nomophobia Questionnaire (NMP-Q)

The Nomophobia Questionnaire (NMP-Q) was developed by Yildirim and Correia (2015) to assess individuals' levels of nomophobia, which is the fear of being without a mobile phone. This 20-item self-report instrument evaluates four dimensions: not being able to communicate, losing connectedness, not being able to access information, and giving up convenience. Each item is rated on a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree), with higher scores indicating greater nomophobic tendencies. The NMP-Q has demonstrated strong psychometric properties, including high internal consistency and construct validity, making it a reliable tool for measuring nomophobia among adolescents and adults

Academic Procrastination Scale (APS)

The Academic Procrastination Scale (APS) was developed by McCloskey (2011) to measure the tendency of students to delay academic tasks. This 25-item self-report scale assesses behaviors and attitudes related to procrastination in academic settings. Items are rated on a 5-point Likert scale, from 1 (strongly disagree) to 5 (strongly agree), with higher scores indicating higher levels of academic procrastination. The APS has shown excellent reliability, with a Cronbach's alpha of .95, and has been validated through correlations with other established procrastination measures. It effectively captures various aspects of procrastination, including time management issues, task aversiveness, and distractibility, making it a comprehensive tool for assessing academic procrastination.

Academic Achievement

In this study, academic achievement was assessed using the Academic Achievement Questionnaire (AAQ), a concise self-report instrument developed to evaluate students' academic performance across multiple dimensions. The AAQ consists of nine items that measure three key aspects: study performance, handling of study demands, and social adaptation. Each item is rated on a 6-point Likert scale, ranging from 'Strongly Disagree' to 'Strongly Agree,' allowing for nuanced responses that reflect the students'

academic experiences. The AAQ has demonstrated strong psychometric properties, including high internal consistency and construct validity, making it a reliable tool for assessing academic achievement in adolescent populations. In a study assessing its psychometric properties, the AAQ achieved a Cronbach's alpha value of 0.901, indicating excellent reliability.

RESULTS

Table 1

Descriptive characteristics of the sample (N=300)

Sample Data		n	%
Age			
	18-25	141	47
	26-34	159	53
Gender			
	Women	120	40
	Men	180	60
Family system			
	Nuclear	160	53.33
	Joint	140	46.66
Residency			
	Urban	144	48
	Rural	156	52

The study's sample comprised 300 participants, with a gender distribution of 60% men (n = 180) and 40% women (n = 120). Participants' ages ranged from 18 to 34 years, with 47% (n = 141) between 18 and 25 years old, and 53% (n = 159) between 26 and 34 years old. Regarding family systems, 53.33% (n = 160) of participants belonged to nuclear families, while 46.66% (n = 140) were from joint families. In terms of residency, 48% (n = 144) resided in urban areas, and 52% (n = 156) lived in rural settings. This diverse demographic distribution provides a comprehensive representation of the adolescent population under study.

Table 2

Descriptive statistics of all the scales (N=300)

Scales	k	α	M	SD	Range		Skew	Kurt
					Actual	Potential		

NQ	20	.82	42.26	12.28	20-81	20-140	.65	.72
APS	25	.84	12.98	5.02	6-56	25-125	.43	.55
AAS	9	.76	18.75	6.03	7-43	9- 54	.62	.72

Note: NQ= Nomophobia Questionnaire, APS= Academic Procrastination Scale, AAS= Academic Achievement Scale

Above table demonstrated the psychometric properties for variables, incorporating the Nomophobia Questionnaire, Academic Procrastination scale, Academic achievement scale. Reliability coefficients for all scales indicate acceptable internal consistency. The actual ranges of responses are compared with the potential ranges, showing that participants utilized a broad spectrum of the scales. Skewness and kurtosis values suggest that the data distribution is fairly normal. These statistics provide insights into the central tendencies and variability of the study variables.

Table 3

Correlation matrix between Study Variables (N=300)

	Variables	1	2	3	4
1.	NQ	-			
2.	APS	.61**	-		
3.	AAS	-.37**	-.51**	-	

Note: NQ= Nomophobia Questionnaire, APS= Academic Procrastination Scale, AAS= Academic Achievement Scale

The correlation matrix demonstrated the associations among the study variables, incorporating Nomophobia questionnaire, academic procrastination and academic achievement. A significant positive correlation is observed between nomophobia and academic procrastination, indicating that higher the nomophobia, greater will be the procrastination.In contrast, academic achievement is negatively correlated with both academic procrastination and nomophobia, suggesting increase in one and decline in other.

Table 4

Regression Coefficients of Independent Variables on Dependent Variable (Academic Achievement)

Variables	B	SE	t	p	95%CL
Constant	2.27	.76	2.73	.00	.69 – 3.46
NQ	-.22	.09	-6.78	.00	-.29 - -.19
APS	-.34	.03	-9.76	.00	-.39- .-.26

Note: NQ= Nomophobia Questionnaire, APS= Academic Procrastination Scale, AAS= Academic Achievement Scale

The regression analysis examines the impact of various independent variables on academic achievement. The constant term is statistically significant, suggesting a baseline influence on academic outcomes. Academic procrastination and nomphobia show a strong negative effect, indicating their crucial role in limiting academic success. All predictors are statistically significant, highlighting their importance in academic achievement. The confidence intervals confirm the reliability of these associations, reinforcing the robustness of the findings.

Table 5

Mediating role of Academic Procrastination between Academic Achievement and Nomophobia (N=300)

Variables	R²	B	SE	t	95% CI LL	95% CI UL
Total effect NQ--AAS (c)	.43	-.37***	.05	17.55	-.42	-.31
Direct effect						
NQ--APS (a)		.39***	.04	20.81	.35	.52
APS--AAS (b)		-.42***	.05	10.01	.31	.56
NQ-- AAS(c′)		-.21***	.04	5.20	- .33	-.23
Indirect effect						
NQ—APS--AAS	.59	.29***	.03		.22	.36

Note: NQ= Nomophobia Questionnaire, APS= Academic Procrastination Scale, AAS= Academic Achievement Scale

*p< .01**; p< .001***

The table presents the mediating role of academic procrastination in the association between nomophobia and academic achievement. Nomophobia has a significant direct negative effect on academic achievement. Nomophobia has a strong direct effect on academic procrastination, which, in turn, negatively affects academic performance. The direct effect of nomophobia on academic achievement decreases when academic procrastination is included, indicating partial mediation. The indirect effect is significant, confirming that academic procrastination plays a crucial mediating role in this link.

DISCUSSION

This study investigated the impact of nomophobia on academic achievement, mediated by academic procrastination. The scales used in this study, including the Nomophobia Questionnaire (NMP-Q) and the Academic Procrastination Scale (APS), demonstrated high reliability, ensuring the accuracy of the findings.

The results of this study supported Hypothesis 1, which posited a significant negative relationship between nomophobia and academic achievement. This finding is consistent with previous research, suggesting that excessive mobile phone use can lead to decreased academic performance (Harris et al., 2020). The negative correlation between nomophobia and academic achievement implies that students who experience higher levels of nomophobia tend to perform poorly in their academic endeavors.

Hypothesis 2, which stated that nomophobia is significantly positively related to academic procrastination, was also supported. This finding aligns with existing literature, indicating that nomophobia can lead to procrastination and decreased productivity (Kuss & Griffiths, 2017). The positive relationship between nomophobia and academic procrastination suggests that students who experience higher levels of nomophobia tend to procrastinate more, potentially affecting their academic performance.

The results also supported Hypothesis 3, which proposed that academic procrastination is significantly negatively associated with academic achievement. This finding is consistent with previous studies, highlighting the detrimental effects of procrastination on academic performance (Steel, 2007). The negative correlation between academic procrastination and academic achievement implies that students who procrastinate more tend to perform poorly in their academic endeavors.

Furthermore, Hypothesis 4, which stated that nomophobia has a significant impact on academic achievement, was supported. This finding suggests that nomophobia can directly affect academic performance, potentially due to the distractions and decreased focus associated with excessive mobile phone use.

Finally, Hypothesis 5, which proposed that academic procrastination mediates the association between nomophobia and academic achievement among adolescents, was also supported. This finding is consistent with recent studies, indicating that procrastination can mediate the relationship between mobile phone addiction and academic performance (Lee et al., 2022). The mediation effect suggests that nomophobia can lead to increased procrastination, which in turn affects academic achievement.

The findings of this study have implications for educators, policymakers, and parents. By understanding the impact of nomophobia on academic achievement and the mediating role of academic procrastination, strategies can be developed to mitigate the negative effects of nomophobia and promote academic success.

CONCLUSION

In conclusion, this study provides valuable insights into the impact of nomophobia on academic achievement, highlighting the mediating role of academic procrastination. The findings suggest that nomophobia can have a significant negative impact on academic performance, both directly and indirectly through increased procrastination. These results have important implications for educators, policymakers, and parents, emphasizing the need for strategies to mitigate the negative effects of nomophobia and promote healthy mobile phone use habits among adolescents. By understanding the complex relationships between nomophobia, academic procrastination, and academic achievement, we can work towards creating a supportive learning environment that fosters academic success and promotes the well-being of students.

LIMITATIONS AND SUGGESTIONS

Despite the valuable insights provided by this study, there are some limitations that need to be acknowledged. One limitation is the reliance on self-reported measures, which may be subject to biases and social desirability effects. Future studies could benefit from incorporating more objective measures, such as mobile phone usage tracking apps or observational data. Additionally, the study's cross-sectional design limits the ability to establish causality between nomophobia and academic achievement. Longitudinal studies could provide more insight into the temporal relationships between these variables. Furthermore, the study's sample may not be representative of all adolescents, and future research could benefit from more diverse samples. Suggestions for future research include exploring the effectiveness of interventions aimed at reducing nomophobia and promoting healthy mobile phone use habits, as well as investigating the role of other potential mediators, such as anxiety or sleep quality, in the relationship between nomophobia and academic achievement.

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